UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,049	07/12/2006	Osvaldo L. Podhajcer	15138-003US1	6069

26161 7590 01/21/2010

FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
HIRIYANNA, KELAGINAMANE T	
ART UNIT	PAPER NUMBER
1633	

NOTIFICATION DATE	DELIVERY MODE
01/21/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No.	Applicant(s)	
	10/563,049	PODHAJCER ET AL.	
	Examiner	Art Unit	
	KELAGINAMANE T. HIRIYANNA	1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *47,48,50-84 and 86* is/are pending in the application.

4a) Of the above claim(s) *68-84* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *47,48,50-67 and 86* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/06; 10/08; 04/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's response filed on *08/28/2009* in response to office action mailed on 03/30/2009 has been acknowledged.

Claim 47 is amended.

Claim 86 is new.

Claim 49 and 85 are cancelled.

Applicants are required to follow Amendment Practice under revised 37 CFR §1.121. The fax phone numbers for the organization where this application or proceeding is assigned is ***571-273-8300.***

Restriction of invention

Applicant's election without traverse of restriction requirement in the reply filed on 03/30/2009 is acknowledged. Applicant elects with traverse the invention Group I (Claims 47-67) for further prosecution on merits.

Applicant's election of species restriction in the reply filed on 03/30/2009 is acknowledged.

Claims 47, 48, 50-67 and 86 are pending and presently under examination.

Claims 68-84 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected claims, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on 03/30/2009

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 51 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 51 makes reference to several figures to determine a group of genes. MPEP 2173.05(s) makes clear that this is properly rejected for lack of clarity, because of the incorporation by reference. Incorporation by reference is a necessity doctrine, not for Applicant's convenience.

Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

"The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention."

Claims 47, 48, 50-67 and 86 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The scope of invention as claimed encompasses any gene expression activity of a CNS sample comprising cell of brain, spinal cord or CSF and other body fluids (where in CNS sample described in the specification as encompassing any bodily fluid samples e.g., serum, blood, lymph, urine, etc see for e.g., specification p.4, lines 29-31 bridging p.5.) of any subject (any animal with bodily fluids).

The specification however, teaches expression in only body fluid namely CSF of mice.. The application does not disclose gene expression activity profile of any other body fluid from any other animal or representative species that occurs in response to any or a representative number of non-CNS diseases.

Applicant is referred to the guidelines for ***Written Description Requirement*** published January 5, 2001 in the Federal Register, Vol.66, No.4, pp.1099-1110 (see

<http://www.uspto.gov>). The disclosure of a single species is rarely, if ever, sufficient to describe a broad genus, particularly when the specification fails to describe the features of that genus, even in passing. In analyzing whether the written description requirement is met for the genus claim, it is first determined whether a representative number of species have been described by their complete structure. Next, it is determined whether a representative number of species have been sufficiently described by other relevant identifying characteristics.

Since the specification fails to disclose representative number of species of body fluids tested for a representative number of expressed genes in response to a non-CNS disease it is not possible for one of skill in the art to envision the invention as broadly claimed. One cannot describe what one has not conceived. Therefore, the lack of disclosure in the specification is not deemed sufficient to reasonably convey to one skilled in the art that the applicants were in possessions of the huge genera recited in the claims at the time the application was filed. Furthermore the possession may be shown by actual reduction to practice, clear depiction of the invention in a detailed drawing, or by describing the invention with *sufficient relevant identifying characteristics* (as it relates to the claimed invention as a whole) such that a person skilled in the art would recognize that the inventor had possession of the claimed invention. Accordingly one of skill in the art would conclude that applicant was not in possession of the claimed genus because a description of a single or a relatively few member of these genus and subgenus would not be representative of claimed genus and subgenus of bodily fluids, animals with body fluids, and non CNS diseases and is insufficient to support the claim in its present scope.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United

States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 47, 48, 50-67 and 86 are rejected under 102(b) as being anticipated by Petricoin III et al., (2002, The LANCET 359:572-577; art of record).

The above claims are directed to a method of diagnosing a non-central nervous system (non-CNS) disorder in a subject comprising detecting gene expression in a CNS sample (described in the specification as including any bodily fluid) comprising a brain cell or a spinal cord cell or cerebrospinal fluid (CSF) from said subject and comparing with a reference gene expression database profiles of non-CNS disorders and determining the subject has or will develop the non-CNS disorder.

Petticorn discloses a method of diagnosing a no-CNS disorder namely ovarian cancer in a subject, the method comprising detecting one or more gene in a CNS-sample (serum), generating gene expression data profile and comparing it with a reference gene expression profile for non-CNS disorder namely ovarian cancer (entire article; abstract) wherein a match of the subjects CNS-sample gene expression is predictive of the subject having or developing said non-CNS disorder.. Thus the rejected claims are within the scope of the Petricoin III's disclosure.

Claims 47, 48, 50, 51, 56-66 are rejected under 102(a) as being anticipated by Cleeland et al., (2003, Cancer 97:2919-2925).

The above claims are directed to a method of diagnosing a non-central nervous system (non-CNS) disorder in a subject comprising detecting gene expression in a CNS sample (described in the specification as including any bodily fluid) comprising a brain cell or a spinal cord cell or cerebrospinal fluid (CSF) from said subject and comparing with a reference gene expression database profiles of non-CNS disorders and determining the subject has or will develop the non-CNS disorder.

Cleeland discloses that cancers (peripheral and non peripheral) and cancer treatments produce a variety of behavioral and cognitive symptoms that involve alteration of hypothalamic-pitutary axis regulation as do many other peripheral disorders such as bacterial infections mediated by LPS or treatment with cytokines (entire article;

abstract;p.2921 col.1, 4th paragraph bridging col.2; p.2922, col.1). Cleeland further teaches that cytokines may play a mechanistic role in cancer-related symptom and teaches a method of diagnosing these effects peripheral cancers by detecting these causative cytokines and the mediators such as ACTH, CRH etc acting downstream from cytokines in brain regions including paraventricular nucleus, hypothalamus and the amygdala (CNS samples) (p.2922; Fig.2). Thus Cleeland's disclosure clearly anticipate the rejected claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 47, 48, 50-67 and 86 are rejected under 35 USC 103 (a) as being unpatentable over Sridhar et al (WO/2002/24956; art of record) in view of Anderson et al (2002, Molecular & Cellular Proteomics 1:845-867)

The above claims are directed to a method of diagnosing a non-central nervous system (non-CNS) disorder in a subject comprising detecting gene expression in a CNS sample (described in the specification as including any bodily fluid) comprising a brain cell or a spinal cord cell or cerebrospinal fluid (CSF) from said subject and comparing with a reference gene expression database profiles of non-CNS disorders and determining the subject has or will develop the non-CNS disorder.

Regarding claim WO/2002/24956 discloses a method of analyzing CNS samples (as body fluids) and diagnosing several non-CNS disorders, more specifically human tumors as well as analyzing normal human tissue specimens as controls for their gene expression expression profile and diagnosing several non-CNS disorders, more specifically human tumors (entire article; abstract; p.27-28). WO/2002/24956 however, does not teach using proteome analytical methods for developing a gene expression profile.

Anderson teaches proteome analytical methods and gene expressing profiling in terms of proteomes in human plasma (a CNS sample) for diagnosing non-CNS disorders including tumors (entire article; abstract; p.861, col.2 bridging p.862-863).

Thus it would have been obvious for one of ordinary skill in the art to use the gene expression profiles of biofluids (CNS–samples) and CNS-cells of subjects with different non-CNS disorders obtained by Sridhar et al (WO/2002/24956) in the form of expressed mRNA analysis data and translate it into proteomic expression profile by adopting the method of proteomic analysis of CNS-samples taught by Anderson and generate proteomic expression profiles for diagnosing specific non-CNS tumors or other disorder.. One of ordinary skill in the art would have bee motivated to make and use a proteomic profile for non-CNS disorders in order to develop specific regimen to treat the progress of the disorder or disease. One of ordinary skill in the art would have reasonable expectation of success making using gene expression profiles as proteome profiles as the art teaches that it is routine to obtain gene expression profiles proteomic and/or transcriptomic profiles of a subject for diagnostic purposes of cancers and other disorders.. Thus, the claimed invention was *prima facie* obvious.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 47, 48, 50-67 and 86 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 47 of Application No. 12/515,314.

An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim because the examined claim is either anticipated by, or would have been obvious over, the reference claim.

Instant claims are drawn to a method of diagnosing a non-central nervous system (non-CNS) disorder in a subject comprising detecting gene expression in a CNS sample (described in the specification as including any bodily fluid) comprising a brain cell or a spinal cord cell or cerebrospinal fluid (CSF) from said subject and comparing with a reference gene expression database profiles of non-CNS disorders and determining the subject has or will develop the non-CNS disorder. The claims of the cited Application No.:'55314 are drawn to a method of diagnosing a non-central nervous system (non-CNS) disorder in a subject comprising detecting gene expression in a CNS sample (described in the specification as including any bodily fluid) comprising a brain cell or a spinal cord cell or cerebrospinal fluid (CSF) from said subject and comparing expression profile of 5 more proteins listed in Table I with a reference gene expression database profiles of non-CNS disorders and determining the subject has or will develop the non-CNS disorder. Accordingly, the claimed process in the present application and the cited patent are obvious variants. Therefore, the inventions as claimed are co-extensive. This is provisional obviousness double patenting rejection.

This is provisional obviousness double patenting rejection since the cited claims have not yet been patented.

Conclusion:

No claim allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Kelaginamane Hiriyanna Ph.D.,* whose

telephone number is **(571) 272-3307**. The examiner can normally be reached Monday through Thursday from 9 AM-7PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Joseph Woitach Ph.D.,* may be reached at **(571) 272-0739.** The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). When calling please have your application serial number or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. For all other customer support, please call the USPTO call center (UCC) at (800) 786-9199.

/Robert M Kelly/

Primary Examiner, Art Unit 1633